
NPIC General Fact Sheets are designed to answer questions that are commonly asked by the general public about pesticides that are regulated by the U.S. Environmental Protection Agency (U.S. EPA). This document is intended to be helpful to professionals and to the general public for making decisions about pesticides.

National
Pesticide
Information
Center

Triclopyr

(General Fact Sheet)

For less general information, please refer to the Technical Fact Sheet.

The Pesticide Label: Labels provide directions for the proper use of a pesticide product. *Be sure to read the entire label before using any product.* Signal words, listed below, are found on the front of each product label and indicate the product's potential hazard.

CAUTION - low toxicity

WARNING - moderate toxicity

DANGER - high toxicity

What is triclopyr?

- Triclopyr is an herbicide, which is a chemical used to control plants (1).
- Triclopyr was first registered in 1979. Triclopyr is currently registered for use on rice, pasture and rangeland, rights-of-way, forests, and lawns (1).
- The majority of triclopyr products carry a Signal Word of Caution, but some products carry Danger or Warning signal words (2). See **The Pesticide Label** box.

How is triclopyr used?

- Triclopyr is used for the control of undesirable woody and herbaceous weeds (1).
- Triclopyr is sold predominately as soluble or emulsifiable concentrates, ready-to-use liquids, granulars, wettable powders, pellets, or formulation intermediates (1).

Herbicide selectivity: Some herbicides have the ability to kill certain plants without harming others. These are called selective herbicides. Resistant plants can survive by metabolizing the herbicide or not absorbing it. Often, a crop plant will be more tolerant of a herbicide than the weeds around it.

What are some products that contain triclopyr?

- Garlon, Turflon, Pathfinder, Access, Brush-B-Gon, Confront, Crossbow (2).
- Products that contain triclopyr often contain other herbicide active ingredients such as 2,4-D and clopyralid (2).

How does triclopyr work?

- Triclopyr is a selective herbicide that mimics the effects of plant hormones (3). See **Herbicide selectivity** box.

How toxic is triclopyr?

- Triclopyr is low in toxicity when eaten by animals (1). See **Toxicity Category** box.
- Triclopyr is mildly irritating to corrosive to the eyes (1). See **Exposure** box.
- Triclopyr is non-irritating to the skin of rabbits; however, skin sensitization occurs when triclopyr is applied to the skin of guinea pigs (1).
- Inhaled triclopyr is low in toxicity to rats (1).

Signs of Toxicity - Animals

- Responses from animals fed triclopyr range from no significant changes to changes in blood chemistry and decreases in body weight and food consumption. There is an increase in liver weight and a degeneration of sections of the kidney in some test animals, depending on the amount and length of exposure (1).

Signs of Toxicity - Humans

- Triclopyr is poorly absorbed through the skin (4).
- No reports of humans poisoned by eating triclopyr were found.

Does triclopyr cause cancer?

Animals

- Researchers observed no tumors in male rats and mice when fed triclopyr. However, there was a significant increase in breast tumors in the female animals fed triclopyr (1).

Humans

- The U.S. EPA has classified triclopyr as a group D chemical, that is, not classifiable as to human carcinogenicity (1). See **Cancer** box.

Does triclopyr cause reproductive problems or birth defects?

Animals

- Triclopyr has low potential for reproductive problems or birth defects in the rabbit and rat, even when the level of exposure is toxic to the mothers (1, 5).

Humans

- No data was found on human reproductive problems or birth defects related to triclopyr exposure.

Exposure: Effects of triclopyr on human health and the environment depend on how much triclopyr is present and the length and frequency of exposure. Effects also depend on the health of a person and/or certain environmental factors.

Toxicity Category (<i>Signal Word</i>)				
	High Toxicity (<i>Danger</i>)	Moderate Toxicity (<i>Warning</i>)	Low Toxicity (<i>Caution</i>)	Very Low Toxicity (<i>Caution</i>)
Oral LD50	Less than 50 mg/kg	50 - 500 mg/kg	500 - 5000 mg/kg	Greater than 5000 mg/kg
Dermal LD50	Less than 200 mg/kg	200 - 2000 mg/kg	2000 - 5000 mg/kg	Greater than 5000 mg/kg
Inhalation LC50 - 4hr	Less than 0.05 mg/l	0.05 - 0.5 mg/l	0.5 - 2 mg/l	Greater than 2 mg/l
Eye Effects	Corrosive	Irritation persisting for 7 days	Irritation reversible within 7 days	Minimal effects, gone within 24 hrs
Skin Effects	Corrosive	Severe irritation at 72 hours	Moderate irritation at 72 hours	Mild or slight irritation

U.S. Environmental Protection Agency, Office of Pesticide Programs, Label Review Manual, Chapter 7: Precautionary Labeling
<http://www.epa.gov/oppfod01/labeling/lrm/chap-07.htm>

Cancer: The U.S. EPA has strict guidelines that require testing of pesticides for their potential to cause cancer. These studies involve feeding laboratory animals large *daily* doses of the pesticide over most of the lifetime of the animal. Based on these tests, and any other available information, EPA gives the pesticide a rating for its potential to cause cancer in humans. For example, if a pesticide does not cause cancer in animal tests, then the EPA considers it unlikely the pesticide will cause cancer in humans. Testing for cancer is not done on human subjects.

Are there other effects of long-term exposure to triclopyr?

Animals

- Triclopyr fed to animals for extended periods of time causes changes in the liver and kidneys (1).

Humans

- No data was found on the long-term effects of triclopyr on humans.

Does triclopyr break down and leave the body?

Animals

- The half-life of triclopyr in animals ranges from 3.6 to 7.2 hours (1, 6). See **Half-life** box.
- Rats eating triclopyr eliminate 94 to 97% in their urine or feces within 3 days (7).

Humans

- When six human volunteers ingested triclopyr, more than 80% was recovered in the urine within 2 days. The elimination half-life of triclopyr was 5.1 hours in these human volunteers (4).

What happens to triclopyr indoors?

- No data was found on the break down of triclopyr indoors.

What happens to triclopyr outdoors?

Soil

- Triclopyr breaks down into several other compounds before ultimately breaking down to carbon dioxide (CO₂) (1).
- Triclopyr has a half-life in soil ranging from 1.1 to 90 days (1, 8). See **Half-life** box.
- Triclopyr can move through soil and has the potential to contaminate groundwater (9).

Water

- In water, triclopyr is mainly broken down by exposure to sunlight. The half-life of triclopyr in water ranges from 1 to 10 days depending on water conditions (1, 10).

Air

- No data was found on fate of triclopyr in the air.

Plants

- Triclopyr's half-life in plants ranges from 3 to 10 days (3).

Does triclopyr affect wildlife?

Birds

- Triclopyr is slightly to practically non-toxic to birds (1, 11).

Half-life: the time required for half of the compound to degrade.

1 half-life = 50% remaining
2 half-lives = 25% remaining
3 half-lives = 12% remaining
4 half-lives = 6% remaining
5 half-lives = 3% remaining

The amount of chemical remaining after a half-life will always depend on the amount of the chemical present initially.

Fish

- Triclopyr ranges from practically non toxic to highly toxic to fish, depending on the fish species and the triclopyr formulation (1).
- Triclopyr is practically non-toxic to moderately toxic to waterfleas, depending on the formulation (1).
- Triclopyr is practically non-toxic to highly toxic to several water insects, depending on the species (1).

Bees

- Triclopyr is practically non-toxic to bees (1).

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